

ABSTRACT

A direct write is provided for a magnetoelectronics information device that includes producing a first magnetic field with a first field magnitude in proximity to the magnetoelectronics information device at a first time ( $t_1$ ). Once this first magnetic field with the first magnitude is produced, a second magnetic field with a second field magnitude is produced in proximity to the magnetoelectronics information device at a second time ( $t_2$ ). The first magnetic field is adjusted to provide a third magnitude at a third time ( $t_3$ ) that is less than the first field magnitude and greater than zero, and the second magnetic field is adjusted to provide a fourth field magnitude at a fourth time ( $t_4$ ) that is less than the second field magnitude. This direct write is used in conjunction with other direct writes and also in combination with toggle writes to write the MRAM element without an initial read.